No. 7900100

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Russell and Louise James

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF seventeen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

POPPING CORN

'Pop-n-Eat'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 1st *day of* May *in the year of our Lord one thousand nine hundred and* eighty.

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

FORM APPROVED
OMB NO. 40-R3822

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY	1b. VARIETY NAME	FOR OFFICIAL USE ONLY
Strain J-63	Pop-n-Eat	PV NUMBER 7900100
2. KIND NAME	3. GENUS AND SPECIES NAME	FILING DATE 8-8-79 / TIME 2:00 A.M. (P.M.)
Popping Corn	Zea Mays Everta	FEE RECEIVED $ 500.00 / $ 250.00 / DATE 8-8-79 / 3-11-80
4. FAMILY NAME (BOTANICAL)	5. DATE OF DETERMINATION	
Graminae	Sept. 10, 1963	

6. NAME OF APPLICANT(S)	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*	8. TELEPHONE AREA CODE AND NUMBER
Russell James Louise James	Box 1209, Soldotna, Alaska 99669	907-262-5855

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION	11. DATE OF INCORPORATION

12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS:

13. **CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:**

- [x] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- [x] 13B. Exhibit B, Novelty Statement.
- [x] 13C. Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*
- [x] 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [ ] YES [x] NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?
[ ] YES [ ] NO	[ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? [ ] YES [x] NO *(If "Yes," give name of countries and dates.)*

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? [ ] YES [x] NO *(If "Yes," give name of countries and dates.)*

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? [x] YES [ ] NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

April 15, 1979 (DATE) — Russell James (SIGNATURE OF APPLICANT)

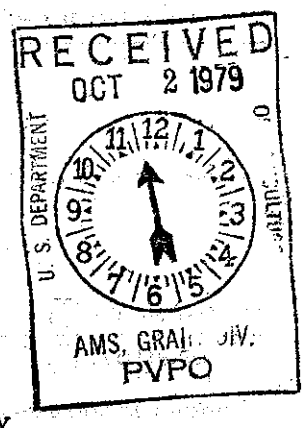
April 15, 1979 (DATE) — Louise James (SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and $500 fee ($250 filing fee and $250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

5 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.



13a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.

13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.

13c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.

13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.

14a If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)

15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

7900100

13 A - Exhibit A

ORGIN AND BREEDING HISTORY OF THE VARIETY - Strain J-63

" Pop-n-Eat"

"Pop-n-Eat" was first discovered during harvest of a crop of yellow Pop Corn in a family garden, fall 1956 in western Colo. Apparently this new strain resulted from a natural cross between a white sweet corn and a yellow pop corn. Since each crop was grown side by side in an isolated area, and seed was saved each year for next years planting, it is assumed, that because of these conditions, Strain J-63 is a cross between white sweet corn and yellow pop corn.

The first seed, twenty-five (25), were selected and planted as an experiment. The resulting harvest amounted to a few cobs about 3-4 inches in length with a scattering of kernels. The appearance of the plant, which resembled field corn, along with its growth habits, encouraged further testing.

A small amount was reserved for kitchen testing and the rest planted for further study. In the years following, continual selection was made in an effort to improve ear quality and quanity, kernel formation, and general appearance of plant characteristics. By the year 1963 the above practices of selection eliminated all undesirable characteristics that were prevalent in the preceding harvests. Strain J-63 stabilized after five years(5), and now is declared to be a pure strain.

ORIGIN AND HISTORY (con't) EXHIBIT A 7900100

Detailed records of the developement of Strain J-63 are not available

"Pop-n-Eat" was kitchen tested for eight (8) years to determine taste,popping ability, and customer approval. It has established a reputation of superior flavor and tenderness. It pops large white and almost hulless. All samples were prepared as food before distribution, and as far as known, there has been no seed dispensed.

Ten)10) year old seed, stored in a cloth bag under normal home conditions tested 80% germination in 1976.

The Alaska Academy Of Horticultural Sciences,Inc. is currently conducting further research and developement on Strain J-63, through a special agreement with the Originators, the Russell James family. Castle Valley Institute, Moab, Utah has been selected as the research center.

And:

From the information herein contained, We, the undersigned, declare to be the originators and co-owners of Strain J-63 "Pop-n-Eat" popping corn.

Russell James

Russell James

Louise James

Louise James

7900100

Addendum to: 13 A Exhibit A

Strain J-63 'Pop-n-Eat

Plant characteristics of Pop-n-Eat remained true to type from the original seeding, within reasonable limits. Any variations were rare or non-existent after three years of cropping and seed improvement.

Basically, from the first, Pop-n-Eat showed variations only in the seed, which were irregular rows, and light yellow to white color in the kernels. After three years these two undesireable characteristics were eliminated except for rare reoccurences.

From all appearences Pop-n-Eat is stable and uniform. Off types have not been a problem at any time during the seed multiplication and improvement program.

The originator is the only person alive today who had any knowledge of growth habits, plant appearences, and variations. Any evidence of uniformity and stability is by the word of one individual, the originator.

This, I declare to be true and accurate.

The Originator

Russell James

Russell James

7900100

13 B Exhibit B Revised

Pop-n-Eat Rfs
~~Strain J-63~~ tends to produce a larger plant than other compared varieties, such as : South American Hulless and Japanese 'rice' Hulless Pop Corn. Pop-n-Eat ~~Strain J-63~~ is most similar to the South American Hulless, as the height difference is not as great as with the Japanese Hulless. No exact measurements have been made on these two compared varieties.

Pop-n-Eat kernels are most similar in size with the South American Hulless, except Pop-n-Eat has larger kernels. Color is distinctly different, as Pop-n-Eat is creamy-white, while South American Hulless is Yellowish-orange, as shown in the attached photo. Flavor of Pop-n-Eat is notably different. Also, Pop-n-Eat is more tender throughout, while the South American Hulless is reported to have a tough center. The South American Hulless is reported to have a flat taste, when compared with Pop-n-Eat's distinct pleasant flavor.

Pop-n-Eat's kernels are most similar to the Japanese Hulless in color only, both are creamy-white, with the japanese Hulless showing a greyish tint as shown in the attached photo. Pop-n-Eat is reported to have a much finner flavor. Kernels are larger than the Japanese Hulless. The shape of the kernel of the Japanese Hulless is long, narrow " rice shape". While Pop-n-Eat's kernels are long, wider, and rounded on the top with flat sides. See attached photo.

Under ideal growing conditions Pop-n-Eat's plant size resembles some field corn varieties.

Additional information:

South American Hulless --	Pericarp	Colorless
	Aleurone	Yellowish-orange
Pop-n-Eat	Pericarp	Colorless
	Aleurone	White

FORM APPROVED. OMB NO. 40-R3712

FORM GR-470-28
(2-15-74)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

EXHIBIT C
(Corn)

OBJECTIVE DESCRIPTION OF VARIETY
CORN *(ZEA MAYS)*

NAME OF APPLICANT(S)
Russell and Louise James
ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*
Box 1209 Soldotna, Alasks 99669

FOR OFFICIAL USE ONLY
PVPO NUMBER
7900100
VARIETY NAME OR TEMPORARY DESIGNATION
Pop-n-Eat

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. TYPE:

[5] 1 = SWEET 2 = DENT 3 = FLINT 4 = FLOUR 5 = POP 6 = ORNAMENTAL

2. REGION WHERE BEST ADAPTED IN THE U.S.A.:

[7] 1 = NORTHWEST 2 = NORTHCENTRAL 3 = NORTHEAST 4 = SOUTHEAST
5 = SOUTHCENTRAL 6 = SOUTHWEST 7 = MOST REGIONS

3. MATURITY (In Region of Best Adaptability):

(Under "comments" (pg. 3) state how heat units were calculated)

90 days emerge to harvest

[ ][ ] DAYS FROM EMERGENCE TO 50% OF PLANTS IN SILK [ ][ ][ ][ ] HEAT UNITS

[ ][ ] DAYS FROM 50% SILK TO OPTIMUM EDIBLE QUALITY [ ][ ][ ][ ] HEAT UNITS

[ ][ ] DAYS FROM 50% SILK TO HARVEST AT 25% KERNEL MOISTURE [ ][ ][ ][ ] HEAT UNITS

4. PLANT:

[2][1][0] CM. HEIGHT (To tassel tip)

[1][0][0] CM. EAR HEIGHT (To base of top ear)

[1][8] CM. LENGTH OF TOP EAR INTERNODE

Number of Tillers:

[2] 1 = NONE 2 = 1–2 3 = 2–3 4 = > 3

Number of Ears Per Stalk:

[3] 1 = SINGLE 2 = SLIGHT TWO-EAR TENDENCY
3 = STRONG TWO-EAR TENDENCY 4 = THREE-EAR TENDENCY

Cytoplasm Type:

[ ] 1 = NORMAL 2 = "T" 3 = "S" 4 = "C" 5 = OTHER (Specify) _____

5. LEAF (Field Corn Inbred Examples Given):

Color:

[2] 1 = LIGHT GREEN (HY) 2 = MEDIUM GREEN (WF9) 3 = DARK GREEN (B14) 4 = VERY DARK GREEN (K166)

Angle from Stalk (Upper half):

[2] 1 = < 30° 2 = 30–60° 3 = > 60°

Sheath Pubscence:

[ ] 1 = LIGHT (W22) 2 = MEDIUM (WF9) 3 = HEAVY (OH26)

Marginal Waves:

[2] 1 = NONE (HY) 2 = FEW (WF9) 3 = MANY (OH7L)

Longitudinal Creases:

[2] 1 = ABSENT (OH51) 2 = FEW (OH56A) 3 = MANY (PA11)

Width:

[0][8] CM. WIDEST POINT OF EAR NODE LEAF

Length:

[0][8][0] CM. EAR NODE LEAF

[ ][ ] NUMBER OF LEAVES PER MATURE PLANT

6. TASSEL:

[1][3] NUMBER OF LATERAL BRANCHES

Branch Angle from Central Spike:

[2] 1 = < 30° 2 = 30–40° 3 = > 45°

Penduncle Length:

[0][3] CM. FROM TOP LEAF TO BASAL BRANCHES

Pollen Shed:

[2] 1 = LIGHT (WF9) 2 = MEDIUM 3 = HEAVY(KY21)

[1] Anther Color:
[1] Glume Color:
1 = YELLOW 2 = PINK 3 = RED 4 = PURPLE 5 = GREEN
6 = OTHER (Specify) _____

Pollen Restoration for Cytoplasms (o = Not Tested, 1 = Partial, 2 = Good)

[0] "T" [0] "S" [0] "C" [0] OTHER (Specify Cytoplasm and degrees of restoration) _____

7. EAR (Husked Ear Data Except When Stated Otherwise):

[1][5] CM LENGTH [3][0] MM. MID-POINT DIAMETER [170] GM. WEIGHT

Kernel Rows:

[2] 1 = INDISTINCT 2 = DISTINCT [20][0] NUMBER

[2] 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = SPIRAL

Silk Color (Exposed at Silking Stage):

[1] 1 = GREEN 2 = PINK 3 = SALMON 4 = RED

Husk Color:

[2] FRESH
[6] DRY
1 = LIGHT GREEN 2 = DARK GREEN 3 = PINK
4 = RED 5 = PURPLE 6 = BUFF

Husk Extention: (Harvest Stage)

[1] 1 = SHORT (Ears Exposed) 2 = MEDIUM (Barely Covering Ear)
3 = LONG (8–10CM Beyond Ear Tip)
4 = VERY LONG (> 10 CM)

Husk Leaf:

[1] 1 = SHORT (< 8 CM) 2 = MEDIUM (8–15 CM)
3 = LONG (> 15 CM)

Shank:

[0][7] CM LONG [4] NO. OF INTERNODES

Position at Dry Husk Stage:

[1] 1 = UPRIGHT 2 = HORIZONTAL 3 = PENDENT

Taper:

[1] 1 = SLIGHT 2 = AVERAGE 3 = EXTREME

Drying Time (Unhusked Ear):

[2] 1 = SLOW 2 = AVERAGE 3 = FAST

8. KERNEL (Dried):

Size (From Ear Mid-Point):

[0][8] MM LONG [0][6] MM. WIDE [0][4] MM. THICK

Shape Grade (% Rounds)

[1] 1 = < 20 2 = 20–40 3 = 40–60 4 = 60–80 5 = > 80

8. KERNEL (Dried) :

[1] **Pericarp Color:** 1 = COLORLESS 2 = RED-WHITE CROWN 3 = TAN 4 = BRONZE
5 = BROWN 6 = LIGHT RED 7 = CHERRY RED
8 = VARIEGATED (Describe) _____

[1] **Aleurone Color:** 1 = HOMOZYGOUS 2 = SEGREGATING (Describe) _____

[1] 1 = WHITE 2 = PINK 3 = TAN 4 = BROWN 5 = BRONZE 6 = RED
7 = PURPLE 8 = PALE PURPLE 9 = VARIEGATED (Describe) _____

[1] **Endosperm Color:** 1 = WHITE 2 = PALE YELLOW 3 = YELLOW 4 = PINK-ORANGE 5 = WHITE CAP.

Endosperm Type:

[ ] 1 = SWEET (su1) 2 = EXTRA SWEET (sh2) 3 = NORMAL STARCH 4 = HIGH AMYLOSE STARCH
5 = WAXY STARCH 6 = HIGH PROTEIN 7 = HIGH LYSINE 8 = OTHER (Specify) _____

[2][1] GM. WEIGHT /100 SEEDS (Unsized Sample)

9. COB:

[2][5] MM. DIAMETER AT MID-POINT

Strength:

[2] 1 = WEAK 2 = STRONG

Color:

[1] 1 = WHITE 2 = PINK 3 = RED 4 = BROWN
5 = VARIEGATED 6 OTHER (Specify) _____

10. DISEASE RESISTANCE (O = Not Tested, 1 = Susceptible, 2 = Resistant):

[0]	STALK ROT (Diplodia)	[0]	STALK ROT (Fusarium)	[0]	STALK ROT (Gibberella)
[0]	NORTHERN LEAF BLIGHT	[0]	SOUTHERN LEAF BLIGHT	[0]	SMUT
[0]	SOUTHERN RUST	[1]	CORN SMUT	[0]	BACTERIAL WILT
[0]	BACTERIAL LEAF BLIGHT	[0]	MAIZE DWARF MOSAIC	[0]	STUNT
[0]	OTHER (Specify)				

11. INSECT RESISTANCT (O = Not Tested, 1 = Susceptible, 2 = Resistant):

[0]	CORNBORER	[1]	EARWORM	[0]	SAPBEETLE	[0]	APHID
[0]	ROOTWORM (Northern)	[0]	ROOTWORM (Western)				
[0]	ROOTWORM (Southern)	[0]	OTHER (Specify) _____				

12. VARIETIES MOST CLOSELY RESEMBLING THAT SUBMITTED FOR THE CHARACTERS GIVEN:

CHARACTER	VARIETY	CHARACTER	VARIETY
Maturity	So. American	Kernel Type	So. American
Plant Type	So. American	Quality (Edible)	So. American
Ear Type	So. American	Usage	All types Pop Corn

REFERENCES:

U.S. Department Agriculture. Yearbook 1937.

Corn: Culture, Processing, Products. 1970 Avi Publishing Company, Westport, Connecticut. (Numerous (Authors)

Emerson, R.A., G.W. Beadle, and A.C. Fraser. A Summary of Linkage Studies in Maize.Cornell A.E.S., Mem. 180. 1935.

The Mutants of Maize. 1968. Crop Science Society of America. Madison, Wisconsin.

Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S. Bul. 831. 1959.

Butler, D.R. 1954 — A System for the Classification of Corn Inbred Lines — PhD. Thesis, Ohio State University.

COMMENTS:

13 D Exhibit D

ADDITIONAL INFORMATION and/or DESCRIPTION OF THE VARIETY

Strain J-63 "Pop-n-Eat"

Report on a Controlled Enviroment project, conducted by the Alaska Academy of Horticultural Sceinces, Soldotna, Alaska. April 1,1978 to August1,1978 at the Oeninsula Greenhouses, Soldotna, Alaska.

A study was made to determine the growth habits of Strain J-63 in an greenhouse enviroment.

On April 1, 1978 120 12 inch plants were transplanted into ground beds. The rows were 32 inches wide with plants 20 inches apart in the row. Controlled temperatures of 55 degrees at night, and 60 degrees during the day were maintained until plants were approx. 5 feet tall. Temperatures were then increased to 65 degrees night and up to 80 degrees during the day.

At pollen drop most plants were 8-10 feet in height with up to four, some partly developed, ears at the 4-6 foot levels. Ears averaged med. to large with diameters up to 2¼ inches, but on the average shorter than field grown. Not all ears filled out completely due to poor pollenation from lack of natural air movement sufficent to shatter pollen. High humidity during various periods of cloudy days contributed to

to this problem.

It was noted that during the low temperature period plants developed normally and tended to mature at a shorter height. When temperatures were raised the plants streched to an abnormal size.

Because of the apparent success with low temperatures, Strain J-63 will be field tested in Alaska during 1979 to determine its adaptability to natural cool weather conditions.

Plans are to continue research and developement in various sreas of the United States and Canada, by The Alaska Academy of Horticultural Sciences.

This report is not intended to be complete in detail. Only a statement of interesting facts. This information has been supplied by:

The Alaska Academy of Horticultural Sciences, Incorporated
Box 1209 Soldotna, Alaska 99669